GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT INITIATION

Date: December 11, 1978

Project Title: Chemical Analysis of Air Sampling Filter Strips for NSF Biogenic Sulfur Program

Project No: G-33-641 Green card

Project Director: Dr. R. F. Browner

Sponsor: Environmental Research & Technology, Inc.; Concord, MA 01742

Agreement Period: From 10/1/78 Until 3/31/79

Type Agreement: Standard Industrial dated 10/18/78 (thru GTRI)

Amount: $5,250.00

Reports Required: Monthly Progress Reports

Sponsor Contact Person (s):

Technical Matters

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Contractual Matters
(thru OCA)

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Defense Priority Rating: None

Assigned to: School of Chemistry (School/Laboratory)

COPIES TO:

- Project Director
- Division Chief (EES)
- School/Laboratory Director
- Dean/Director—EES
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- Procurement Office
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- Project Code (GTRI)
- Other

CA-3 (3/76)

GEORGIA INSTITUTE OF TECHNOLOGY OFFICE OF CONTRACT ADMINISTRATION

SPONSORED PROJECT TERMINATION SHEET

Date 6/30/83

Project Title: "Chemical Analysis of Air Sampling Filter Strips for NSF Biogenic Sulfur Program"

Project No: G-33-641

Project Director: Dr. R. F. Browner

Sponsor: Environmental Research and Technology, Inc.

Effective Termination Date: 3/31/79

Clearance of Accounting Charges: 3/31/79

Grant/Contract Closeout Actions Remaining:

- ☐ **Final Invoice and Closing Documents**
- ☐ **Final Fiscal Report**
- ☐ Final Report of Inventions
- ☐ Govt. Property Inventory & Related Certificate
- ☐ Classified Material Certificate
- ☐ Other _____

None: Recent transmission from PPC indicates final report mailed 9/81. This action is to close account.

Assigned to: Chemistry (School/Laboratory)

COPIES TO:

Administrative Coordinator	Research Security Services	EES Public Relations (2)
Research Property Management	Reports Coordinator (OCA) ✓	Computer Input
Accounting	Legal Services (OCA)	Project File
Procurement/EES Supply Services	Library	Other Proj. Dir.

FORM OCA 10-78I

Final Report to Environmental Research and Technology, Inc.

Project Title: Chemical Analysis of Air Sampling Filter Strips for NSF Biogenic Sulfur Program

Attention: Mr. David Chang

The concentrations of $SO_4^{=}$, Na^{+}, and Cl^{-} on the Pallflex TX40-HI20 particulate filters were determined using the following analytical techniques: Na^{+}, inductively coupled plasma atomic emission spectrometry; Cl^{-}, coulometric titration of Cl^{-} with silver ion; SO_4^{2-}, Thorin micro-titration. A filter strip, 3/4 in X 8 in, was cut from each filter and was extracted by boiling with 30 mL of water in a closed reflux system. The final extract was diluted to 40 mL and used for chemical analyses.

Filter results, blanks and sampled filters, are given in Tables I and II.

A thorough discussion of these results is presented in Final Report NSF PFR77-20663, "Field Studies of Biogenic Sulfur Compounds", prepared for the National Science Foundation by Dian R. Hitchcock and Marilyn S. Black.

TABLE I

ERT HI-VOL PARTICULATE FILTER BLANK VALUES

Filter Number	$SO_4^{=}$ (µg/Filter)	Na^{+} (µg/Filter)	Cl^{-} (µg/Filter)
1	50	1875	183
2	57	1852	-
3	116	4245	146
4	151	2098	246
5	7	1687	192
6	66	2016	201
7	185	2163	164
8	138	2059	73
9	50	2144	-
10	87	1952	182
11	-	2088	228
12	201	1971	301
13	64	1779	119
14	200	1921	201
15	48	2081	137
16	60	1825	274
17	8	1898	91
18	29	2160	214
Average Value	84	2098	164
Standard Deviation	65	553	84

TABLE II

ERT HI-VOL PARTICULATE FILTER RESULTS

Sample #	Location**	Date	SO_4^{2-} µg/filter	Na^+ µg/filter	Cl^- µg/filter
0639	1	7-7	9075	2409	<82
0667	1	7-8	5322	2427	356
0673	1	7-9	19080	4845	<82
0676	1	7-10	30430	3276	<82
0560	1	7-11	13015	2017	128
0575	1	7-12	6311	1332	<82
0580	1	7-13	6556	1679	<82
0586	1	7-14	18248	4123	<82
0595	1	7-15	19973	5028	<82
0600	1	7-16	10369	2062	<82
0604	1	7-17	24030	3413	137
0611	1	7-18	23168	3367	<82
0682	1	7-19	14740	3614	<82
0689	1	7-20	9075	2683	<82
0696	1	7-21	17513	3613	<82
0701	1	7-22	53068	2610	<82
0709	1	7-23	49687	2637	<82
0715	1	7-24	22060	2592	<82
0721	1	7-25	8036	4024	1989
0716	1	7-24*	26372	2774	<82
0668	1	7-8*	4959	1998	347
0619	2	6-30	16161	1743	<82
0628	2	7-1	5077	2427	<82
0635	2	7-2	8526	3048	<82
0643	2	7-3	14867	7975	237
0647	2	7-4	11780	1560	<82
0653	2	7-5	5203	2085	173
0654	2	7-6	14681	4800	<82
0660	2	7-7	10859	3276	128
0666	2	7-8	4959	2363	3887
0669	2	7-9	14250	6260	<82
0678	2	7-10	30057	5028	<82

TABLE II (Continued)

Sample #	Location**	Date	SO_4^{2-} µg/filter	Na^+ µg/filter	Cl^- µg/filter
0556	2	7-11	11476	2199	<82
0561	2	7-12	5077	1132	<82
0577	2	7-13	6684	2017	119
0585	2	7-14	17140	4371	<82
0592	2	7-15	14063	4526	274
0590	2	7-15*	26127	6652	<82
0602	2	7-16*	19728	3614	<82
0606	2	7-17	27843	2199	<82
0616	2	7-18	28215	5028	<82
0679	2	7-19	14426	4070	<82
0686	2	7-20	11113	4709	1579
0694	2	7-21	16033	3385	<82
0698	2	7-22	42063	4052	<82
0707	2	7-23	42925	2820	<82
0713	2	7-24	23658	4417	<82
0719	2	7-25	12035	4982	3431
0670	2	7-9*	18924	7492	<82
0621	3	6-30	17706	7879	1414
0629	3	7-1	8348	15476	22566
0634	3	7-2	11487	17985	23442
0644	3	7-3	18669	18441	23022
0645	3	7-4	9937	899	<82
0649	3	7-5	9329	16617	25887
0656	3	7-6	14436	179621	17958
0661	3	7-7	14436	20495	25021
0664	3	7-8	7791	18670	28351
0671	3	7-9	20090	27339	35533
0553	3	7-10*	29077	21635	16507
0554	3	7-11	23913	20723	7464
0555	3	7-11*	11309	5028	1524
0563	3	7-12	7046	7286	9928
0583	3	7-13	9878	14792	19464

TABLE II (Continued)

Sample #	Location**	Date	SO_4^{2-} µg/filter	Na^+ µg/filter	Cl^- µg/filter
0588	3	7-14	20218	17529	15111
0594	3	7-15	22550	24145	25669
0597	3	7-16	11045	6972	3103
0609	3	7-17	24765	11598	2254
0612	3	7-18	15729	10457	7136
0617	3	7-19	20953	19582	21325
0685	3	7-20	13142	23460	23497
0691	3	7-21	15862	10914	8386
0697	3	7-22	40195	10001	<82
0705	3	7-23	39593	9568	<82
0711	3	7-24	27480	19582	12127
0718	3	7-25	12231	20723	28132
0662	3	7-8*	7850	21407	22790
0703	3	7-22*	53852	1104	<82

*Particulate filter from filter pack hi-vol.

** 1 - Base

2 - Mainland

3 - Island